

TARGET A & B – Sum of Interior Angles and Exterior Angles

Sum of Interior Angles in a Polygon = $(n - 2) \cdot 180$

Sum of Exterior Angles in a Polygon = 360°

One interior angle in a regular polygon = $\frac{\text{sum}}{n}$

One exterior angle in a regular polygon = $\frac{360}{n}$

one interior angle + one exterior angle = 180°

For #1 & 2, find the sum of the interior angles, sum of the exterior angles, one interior angle and one exterior angle if the given polygon with the given number of sides is a regular polygon.

1) decagon

2) 27-gon

sum of interior _____

sum of interior _____

sum of exterior _____

sum of exterior _____

one interior angle _____

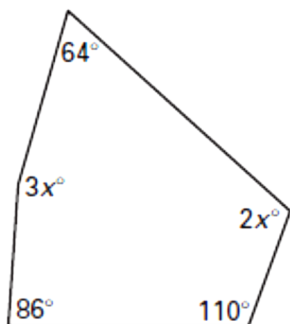
one interior angle _____

one exterior angle _____

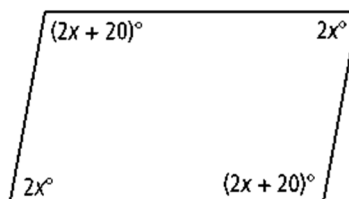
one exterior angle _____

For #3 & 4, find the sum of the interior angles for the polygon, then solve for the value of x.

3)

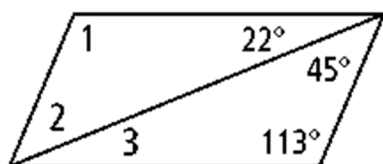


4)

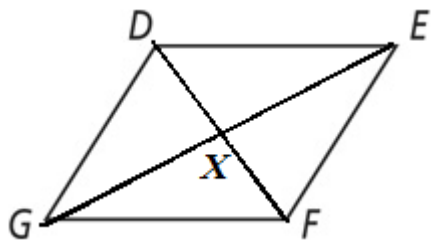
**TARGET C – PROPERTIES OF PARALLELOGRAMS**

- Use your property chart to find the 5 properties of a parallelogram.

5) Find the measures of the missing angles in the parallelogram.

 $\angle 1 =$ _____ $\angle 2 =$ _____ $\angle 3 =$ _____

- 6) Use parallelogram $DEFG$ to complete the statements.



$$\overline{DE} \cong \underline{\hspace{2cm}}$$

$$\overline{DX} \cong \underline{\hspace{2cm}}$$

$$\angle EFG \cong \underline{\hspace{2cm}}$$

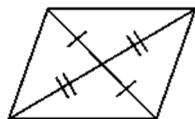
$$\angle DGE \cong \underline{\hspace{2cm}}$$

TARGET D – PROVING A QUADRILATERAL IS A PARALLELOGRAM

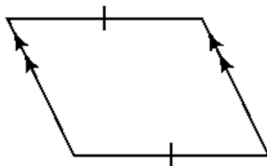
- Use your 5 properties of a parallelogram to decide if a quadrilateral is a parallelogram
- You can also use this rule to prove you have a parallelogram: If one pair of opposite sides is both parallel and congruent, then you have a parallelogram.

For #7 – 9, decide if each quadrilateral is a parallelogram. Give an explanation as to why or why not.

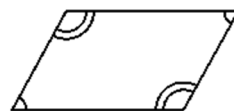
7)



8)



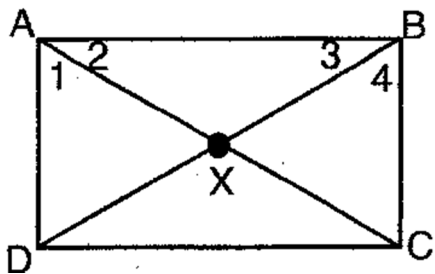
9)



TARGET E – RECTANGLE, SQUARE, RHOMBUS, TRAPEZOID AND KITE

- Use your property chart to find the properties for each of these quadrilaterals.

- 10) Given **rectangle** $ABCD$. If $m\angle 1 = 27^\circ$ and $AB = 12$ and $BC = 5$, find the missing measures.



$$\angle 2 = \underline{\hspace{2cm}}$$

$$\angle 3 = \underline{\hspace{2cm}}$$

$$\angle 4 = \underline{\hspace{2cm}}$$

$$\angle AXB = \underline{\hspace{2cm}}$$

$$DC = \underline{\hspace{2cm}}$$

$$AD = \underline{\hspace{2cm}}$$

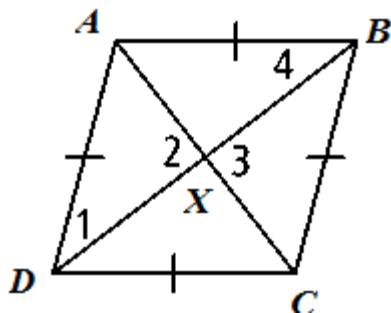
$$AC = \underline{\hspace{2cm}}$$

$$DB = \underline{\hspace{2cm}}$$

$$DX = \underline{\hspace{2cm}}$$

$$AX = \underline{\hspace{2cm}}$$

- 11) Given **rhombus** $ABCD$. If $m\angle 1 = 42^\circ$ and $AC = 30$ and $BD = 24$, find the missing measures.



$\angle 2 = \underline{\hspace{2cm}}$

$\angle 3 = \underline{\hspace{2cm}}$

$\angle 4 = \underline{\hspace{2cm}}$

$AX = \underline{\hspace{2cm}}$

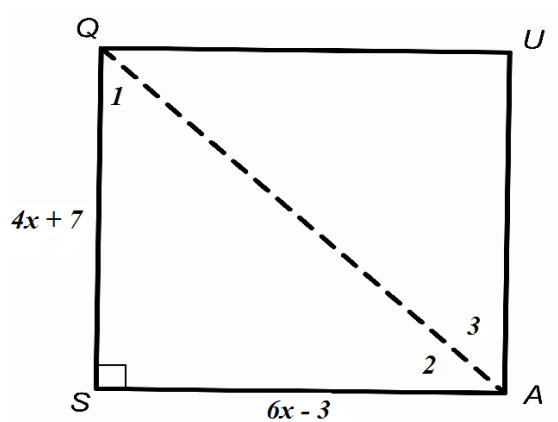
$DX = \underline{\hspace{2cm}}$

$AD = \underline{\hspace{2cm}}$

$AB = \underline{\hspace{2cm}}$

$BC = \underline{\hspace{2cm}}$

- 12) Use **square** $SQUA$ to solve for the following values:



$x = \underline{\hspace{2cm}}$

$SQ = \underline{\hspace{2cm}}$

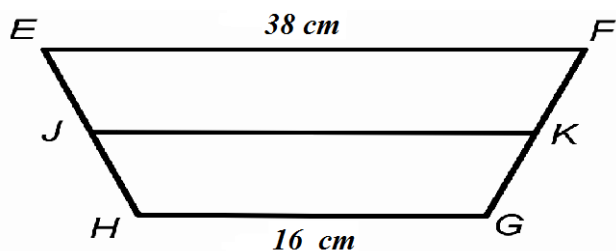
$QU = \underline{\hspace{2cm}}$

$\angle 1 = \underline{\hspace{2cm}}$

$\angle 2 = \underline{\hspace{2cm}}$

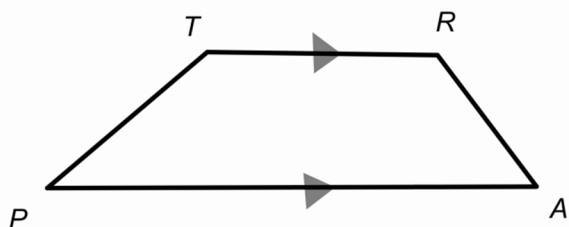
$\angle 3 = \underline{\hspace{2cm}}$

- 13) Find the median for trapezoid $EFGH$.



$\text{median} \underline{\hspace{2cm}}$

- 14) Given TRAP is a trapezoid, with $\overline{TR} \parallel \overline{AP}$, if $m\angle A = 72^\circ$ and $m\angle P = 44^\circ$, find $m\angle R$ and $m\angle T$



$m\angle R = \underline{\hspace{2cm}}$

$m\angle T = \underline{\hspace{2cm}}$